CLAIMS

1. A telecommunications network comprising

a plurality of network elements, switching means, and a traffic stream controller, wherein, for each network element,

there is provided a set of outgoing paths from the network element to the switching means, one outgoing path carrying traffic streams for each of the network elements, and an incoming path carrying traffic streams from the switching means to the network element,

to route traffic streams from each of the network elements to the network element, the switching means merges each outgoing path carrying traffic streams for the network element onto the incoming path of the network element, and

routing of the traffic streams to the network element is controlled by the network element using the traffic stream controller.

2. A telecommunications network according to claim 1, in which each outgoing path comprises a permanent virtual path (PVP).

3. A telecommunications network according to claim 1 or claim 2, in which each incoming path comprises a permanent virtual path (PVP).

4. A telecommunications network according to any preceding claim, in which for each network element control of routing of the traffic streams to the network element comprises control of usage of the incoming path bandwidth of the network element.

5. A telecommunications network according to claim 4, in which each network element controls usage of the incoming path bandwidth by using information received from the traffic stream controller.

6. A telecommunications network according to claim 5, in which the information received from the traffic stream controller comprises information concerning each of the traffic streams which the network element is to receive.

7. A telecommunications network according to claim 5 or claim 6, in which the information received from the traffic stream controller comprises information concerning the bandwidth of each of the traffic streams which the network element is to receive.

8. A telecommunications network according to claim 6 or claim 7, in which each network element uses the information received from the traffic stream controller to calculate the aggregate bandwidth of any traffic streams being carried on the incoming path of the network element and each of the traffic streams which it is to receive.

9. A telecommunications network according to claim 8, in which each network element checks that the aggregate bandwidth does not exceed the incoming path bandwidth of the network element.

10. A telecommunications network according to claim 9, in which each network element rejects one or more of the traffic streams which it is to receive, if the aggregate bandwidth exceeds the incoming path bandwidth.

11. A telecommunications network according to any preceding claim, in which for each network element the incoming path bandwidth is less than or equal to the bandwidth of an egress port of the switching means from which the incoming path comes.

12. A telecommunications network according to any preceding claim, in which for each network element each outgoing path has a bandwidth less than or equal to the bandwidth of the network element incoming path onto which the outgoing path is merged.

13. A telecommunications network according to any preceding claim, in which for each network element control of routing of the traffic streams to the network element from each of the network elements comprises the network elements exchanging network element identities via the traffic stream controller.

14. A telecommunications network according to any preceding claim, in which for each network element control of routing of the traffic streams to the network element comprises setting up a virtual connection (VC) for each traffic stream, within an outgoing path carrying the traffic stream and the incoming path of the network element.

15. A telecommunications network according to claim 14, in which setting up each VC comprises allocating a VC identifier (VCI) to each VC.

16. A telecommunications network according to claim 15, in which allocating a VCI to each VC comprises the network element choosing a VCI for each VC.

17. A telecommunications network according to claim 16, in which allocating a VCI to each VC comprises the network element communicating a chosen VCI to each of the network elements of the telecommunications network.

18. A telecommunications network according to claim 17, in which communicating a chosen VCI is achieved via the traffic stream controller.

19. A telecommunications network according to any of claims 14 to 18, in which for each network element setting up a VC for a traffic stream comprises the following steps: the traffic stream controller informs the network element that a traffic stream is to be sent to it from a source network element; the network element chooses a VCI for a VC for the traffic stream; the network element communicates the chosen VCI to the traffic stream controller; the traffic stream controller communicates the chosen VCI to the source network element; and the source network element assigns the traffic stream to a VC having the VCI.

20. A telecommunications network according to any preceding claim, in which the telecommunications network routes CBR traffic streams.

21. A telecommunications network according to any preceding claim, in which the switching means comprises one or more switches of the telecommunications network.

22. A telecommunications network according to any preceding claim, in which for each network element the outgoing paths carrying traffic streams for the network element are merged in one or more stages using one or more switches of the switching means.

23. A telecommunications network substantially as described herein with reference to the accompanying drawing.